

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1-70 are pending, of which Claims 1-17, 63, and 67 are active; and no claims are amended, newly added, or canceled herewith.

In the outstanding Office Action, Claims 1-7, 9-13, 63, and 67 were rejected under 35 U.S.C. § 102(b) as anticipated by Okada et al. (Japanese Patent Publication No. 10-056595, hereafter Okada); Claims 8, 14, 16, and 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Okada in view of Kondo et al. (U.S. Pat. No. 5,731,849, hereafter Kondo); and Claim 15 was rejected under 35 U.S.C. § 103(a) as unpatentable over Okada in view of Onuki (U.S. Patent Publication No. 2002/0097324).

At the outset, Applicants thank Examiner Ye for the interview granted Applicants' representative on October 11, 2005. During the interview, the pending claims were discussed with regard to Okada. As discussed during the interview, the outstanding rejection of Claims 1-7, 9-13, 63, and 67 is respectfully traversed.¹

In the past, pixel shift photography has been used to improve solid state image sensing device quality. Pixel shift photography obtains high resolution by combining an image photographed by shifting a subject by half a pixel pitch and an image before such shifting to obtain a single image. Typical examples of image shift mechanisms are shown in Figures 27A-27C of the present specification.

However, using conventional image shift techniques, desired image quality may not be obtained. Namely, due to the movement of a user's hands, movement of the subject, or change in performance of the pixel shift mechanism, image quality may be deteriorated.

When any of these events occurs, the degree of deterioration of the image differs depending

¹ As further discussed during the interview, if this rejection is to be maintained, a formal translation of Okada is respectfully requested.

on the degree of the shift. In fact, if deterioration of the image crosses a certain threshold, the image becomes inferior as compared to an image obtained using ordinary photography techniques.²

In light of these difficulties, the Applicants developed the present invention, as recited, for example, in Claim 1. To this end, Claim 1 recites:

a judgment unit which judges whether the pixel shift photography has been normally performed or not, based on the image data for a plurality of images output before and after the displacement of said image sensing unit.

Independent Claims 63 and 67 recite analogous features. Through the claimed configuration, it is possible to overcome the difficulties of prior art photography techniques.

As discussed during the interview, Okada does not disclose or suggest the claimed judgment unit. In more detail, Okada does not disclose or suggest judging whether the pixel shift photography has been normally performed or not, based on the image data for a plurality of images output before and after the displacement of the image sensing unit.

Okada describes that the amount of blurring is detected by the blurring amount detector 9. An object image which enters an optical system 2 is two-dimensionally shifted with respect to a solid state image pickup device 5 using an X axis image shift feature and a Y axis image shift feature 4 of Okada. The first image shift amount is generated based on the image shift amount and the amount of blurring. A plurality of images shifted in this manner is then synthesized by an image synthesizing circuit 6. Okada further describes that the X axis angle of rotation acceleration sensor 21 and the Y axis angle of rotation acceleration sensor 22 are used for detecting the amount of blurring of the image pickup device of Okada. However, Okada does not disclose or suggest that the amount of blurring is detected based on the image.

² Specification, pages 2-3.

In other words, according to Okada, judgment of the final image shift photography is not performed, which is an open loop control. Namely, the final judgment is made before the actual photographs are taken. Therefore, in the system of Okada, two images may be synthesized even when they should not be synthesized due to a relatively large amount of movement of hands when the actual photographs are taken, because the judgment of the shift is performed before the final pictures are taken. By contrast, the claimed invention adopts a closed loop control, because the plurality of images taken by the pixel shift photography is examined.

Therefore, it is respectfully submitted that Okada does not disclose or suggest judging whether the pixel shift photography has been normally performed or not, based on the image data for a plurality of images output before and after the displacement of the image sensing unit, as recited in the independent claims. Accordingly, as Okada fails to disclose or suggest the features of independent Claims 1, 63, and 67, it is respectfully requested that the outstanding rejection of Claims 1-17, 63, and 67 be withdrawn.

Likewise, with respect to the remaining rejections of Claims 8 and 14-17, these rejections all primarily rely upon Okada. Because these claims depend from Claim 1, it is respectfully submitted that the outstanding Office Action has not provided a *prima facie* case of obviousness with respect to Claims 8 and 14-17. It is therefore respectfully requested that these rejections be withdrawn.

Consequently, in view of the foregoing discussion, it is respectfully submitted that this application is in condition for allowance. Early and favorable action is therefore respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)
GJM/KPB:aif

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James D. Hamilton
Registration No. 28,421